Sophie Hayes (12546)
Utah Clean Energy
1014 2nd Ave.
Salt Lake City, UT 84103
801-363-4046
Attorney for Utah Clean Energy

BEFORE THE PUBLIC SERVICE COMMISSION OF UTAH

In the Matter of the Application of Rocky Mountain Power to Implement the Programs Authorized by the Sustainable Transportation and Energy Plan Act	**Docket No. 16-035-36** UCE Exhibit 1.0 – Phase 1 Direct Testimony

PHASE 1 DIRECT TESTIMONY OF SARAH WRIGHT

ON BEHALF OF

UTAH CLEAN ENERGY

DATED this 9th day of November, 2016

_____

Sophie Hayes
Attorney for Utah Clean Energy

INTRODUCTION

Q: Please state your name and business address.

A: My name is Sarah Wright. My business address is 1014 2nd Ave, Salt Lake City, Utah 84103.

Q: By whom are you employed and in what capacity?

A: I am the Executive Director of Utah Clean Energy, a non-profit and non-partisan public interest organization whose mission is to lead and accelerate the clean energy transformation with vision and expertise. We work to stop energy waste, create clean energy, and build a smart energy future.

Q: On whose behalf are you testifying?

A: I am testifying on behalf of Utah Clean Energy (UCE).

Q: Please review your professional experience and qualifications.

A: I am the founder and director of Utah Clean Energy. Through my work with Utah Clean Energy over the last 15 years, I have been involved in a number of regulatory dockets, including Integrated Resource Planning, rate cases, tariff filings, and other dockets relating to energy efficiency, renewable energy, and net metering.

I have 15 years of energy policy experience working on state, local, and national energy policy, providing expertise and policy support for renewable energy and energy efficiency. I have served on numerous energy policy working groups and taskforces, including the Energy Efficiency and Energy Development Committees supporting Governor Herbert's Energy Task Force and Ten Year Energy Plan; the Governor's Utah Renewable Energy Zone Task Force; Governor Huntsman's Energy Advisory Council and Blue Ribbon Climate Change Advisory Council; Utah's Legislative Energy Policy

Workgroup, and Salt Lake City's Climate Action Task Force. Currently, I participate in the Utah Clean Air Task Force and Energy Task Force convened by Envision Utah.

For 15 years prior to founding Utah Clean Energy, I was an occupational health and environmental consultant, working on occupational health and ambient air quality issues for a wide variety of commercial, industrial, and governmental clients across the west. I have a BS in Geology from Bradley University in Peoria, Illinois and a Master of Science in Public Health from the University of Utah in Salt Lake City.

OVERVIEW AND CONCLUSIONS

Q: What is Utah Clean Energy's interest in this docket?

A: Utah Clean Energy prioritizes a more efficient, cleaner, and smarter energy future. We envision and enable increased utilization of energy efficiency, distributed generation, and utility-scale renewable energy. We further believe that distributed energy resources have great potential to influence the grid of the future and will provide valuable grid services, while improving reliability and resiliency.

Q: What is the purpose of your testimony?

A: The purpose of my testimony is to address only the portion of the Company's application that proposes to install a battery storage and solar generation facility connected to one or two distribution voltage circuits in central Utah. I do not provide review, evaluation or recommendations regarding any other aspect of Phase 1 of the Company's STEP filing, and my silence on these issues should not be construed to indicate any position.

SOLAR AND STORAGE PROJECT PROPOSAL

Q: What is the basis for the company's proposal?

A: As part of the comprehensive legislative package that was the "Sustainable Transportation and Energy Plan," in 2016, the Utah Legislature enacted Utah Code Section 54-20-105, "Innovative utility programs," which is set forth below:

> (1) The commission may authorize, subject to funding available under Subsection 54-7-12.8(6)(b)(ii)(B), a large-scale electric utility to implement programs that the commission determines are in the interest of large-scale electric utility customers to provide for the investigation, analysis, and implementation of:
> (a) an economic development incentive rate;
> (b) a solar generation incentive;
> ***(c) a battery storage or electric grid related project;***
> (d) a commercial line extension pilot program;
> (e) a program to curtail emissions from thermal generation plant in the Salt Lake non-attainment area during a non-attainment event as defined by the Division of Air Quality;
> (f) an additional electric vehicle incentive program incremental to the program described in Section 54-20-103;
> (g) an additional clean coal program incremental to the program described in Section 54-20-104;
> and (h) any other technology program.
> (2) The commission may review the expenditures made by a large-scale electric utility for a program described in Subsection (1) in order to determine if the large-scale electric utility made the expenditures prudently in accordance with the purposes of the program.
> (3) The commission may authorize and establish funding for a conservation, efficiency, or new technology program in addition to the programs described in this chapter if the conservation, efficiency, or new technology program is cost-effective and in the public interest [*emphasis added*].

The Company has proposed this project as an innovative utility program under Section 54-20-105. As such, the Commission must determine that the battery storage or grid related project is "in the interest" of the utility's customers before the Commission may approve it (U.C.A. Section 54-20-105(1)).

Q. Please describe the Company's project proposal.

A. The company proposes to use $5.05 million of STEP funds to install a stationary battery system connected to one or both of two 12.5 kV distribution circuits in central Utah, and to use an additional $1.95 million in Blue Sky funds to install a company-owned solar project in conjunction with the battery.

Q. What is your general response to the Company's proposal?

A. Utah Clean Energy sees solar, storage, demand response, and other forms of load control as important, cost effective, and risk reducing means to meet our energy and energy infrastructure needs now and into the future. Solar prices have declined dramatically and are now in line with the price of natural gas resources, and battery storage prices are projected to fall at a similarly fast downward trajectory. Utah Clean Energy applauds the company for using a pilot project to gain hands-on experience with solar and storage. This will enable the company and regulators to understand the potential of these technologies and further utilize these "non-wires" options in transmission and distribution system planning and maintenance.

Q. The Company provided cost information for the solar portion of the solar and storage project in their filing. Are their projected solar project costs in line with what you are seeing in the market?

A. No, the company's price projections for solar are extremely high for a 650 kW project. The company confirmed in their technical conference held on October 11, 2016, that their price for project is estimated to be $3,000 per kW. This price is in line with the

current cost of some residential systems in the state.[1] However, given the economies of scale for a 650 kW system, their actual costs should be much lower than $3,000 per watt.

Q. Do the company's elevated solar price projections cause you concern for this project?

A. Not necessarily. In the technical workshop held on October 11, 2016, Utah Clean Energy questioned the Company's very high cost projections. The Company explained that they included this cost figure to ensure that they did not underestimate the cost of the system and they explained that they would issue a request for an engineer, procure, and construct proposal. A competitive bidding process should ensure more reasonable solar prices for this relatively small 650 kW project.

Q. Do the Utility and customers receive the same tax benefits with company owned projects as they do with private developer projects and power purchase agreements with third parties?

A. No. In the technical workshop for this docket held on October 11, 2016, the Company answered a question put forth by the Utah Clean Energy, regarding potential tax credit disadvantages of utility ownership. The Company acknowledged that Company ownership can be more expensive for ratepayers because the tax rules dictate that the tax benefits cannot fully flow to customers, though some benefits do. Notwithstanding this price disadvantage, the Company explained that they view utility ownership of the project – and the education that will result – as outweighing this consideration.

[1] http://mycommunitysolar.org/ucommunitysolar/what-is-u-community-solar/discount-solar-pricing, accessed November 7, 2016, shows small residential solar PV systems of 3 kW priced between $2922/kW and $3092/kW before tax incentives.

I appreciate that the Company prioritizes learning from this experience; however, it is also important that the company not preclude various ownership models that may be more advantageous to customers. Going forward, it will be important to better understand ownership impacts and tax provisions as the Company looks to build and own larger renewable energy projects and as they model renewable energy prices in their integrated resource planning.

Q. In the Company's proposal, they explain that Blue Sky Funds will be utilized to fund the solar PV portion of the project. What is your response to this proposal?

A. My initial response is that given that solar PV is an extremely cost effective resource, there is likely *no need* to utilize Blue Sky Funds to pay for this project.

Second, I am concerned with the Company's proposal to provide the energy benefits from this Blue Sky-funded project to all Utah ratepayers. I have been involved with the Blue Sky program since its inception. It is a voluntary "green pricing" program for customers who choose to participate. To date, voluntary Blue Sky customers have been supporting the purchase of renewable energy credits (RECs) and community-based projects (funds are awarded through a grant application process and go toward reducing the cost of an on-site renewable energy installation for the award recipient). Past recipients of grant money include schools, museums, municipal facilities, the Ronald McDonald House, and police departments, among others. Grant recipients utilize Blue Sky money to help pay for their onsite renewable energy projects and the ongoing energy benefits continue to flow to grant recipients over time. In this way, Blue Sky Customers purchase offsets for their own energy (through RECs) while also supporting organizations in their communities and throughout the state.

In my opinion, utilizing voluntary Blue Sky funds for this project is a significant deviation from the Blue Sky program purpose. Specifically, under Blue Sky, customers have been choosing to 1) purchase RECs to offset their own energy consumption and 2) provide grants for community projects. On the other hand, this project is designed to provide energy benefits for all Utah customers (but will, in fact, benefit the entire PacifiCorp system through transmission level impacts). While the project does represent an effort by Rocky Mountain Power to build actual additional renewable energy infrastructure, it does not in any way reward Blue Sky customers for their continued voluntary participation in this long-standing program.

Furthermore, as I said above, it is unlikely (Rocky Mountain Power's budget projections notwithstanding) that the company will need Blue Sky funds to make this project economic given the price of solar projects currently in development. Thus, Utah Clean Energy does not support using Blue Sky funds to pay for the solar portion of the project as it is currently proposed.

Q. Does Utah Clean Energy support including the solar portion of the project?

A. Yes. My objection to the use of Blue Sky funds as proposed by the company does not mean I am opposed to the solar installation component of the proposed project.

Q. Can you recommend a mechanism such that Blue Sky funds could be used for the pilot solar project, which would align with the intent of the Blue Sky Community Grant program that has been in place since 2006?

A. Yes. If the Company and regulators want to utilize Blue Sky funds for the PV portion of the proposed solar and storage pilot project, there is a relatively simple

solution that would align with the intent of the Blue Sky Program and offer benefits to community service organizations, such as food banks, homeless shelters, low income housing, community service non-profits, etc. The kWhs generated from the portion of the pilot solar project funded by Blue Sky money could be awarded to community service organizations through a grant process similar to the current Blue Sky grant process. The only difference would be that they are applying to be a beneficiary of a portion of the energy output from the pilot PV project instead of installing the project on their facility.

Q. Can you give an example of how this might work?

A. Yes. Let's assume that the 650 kW solar project costs a more reasonable $2,000/kW for a total cost of $1.3 million. If Blue Sky funds the entire project then the output of the entire project would be available for grants to community service organizations, schools, etc. If only half of the system is funded by Blue Sky funding, then half the output would be available for the grant program.

For illustrative purposes, the PV watts[2] online calculator indicates that a fixed tilt PV system in Cedar City will generate about 1,118,000 kWh per year. If we divide the annual output by 12 to get the average monthly output and then by 200 kWh to correspond to the block size in Rocky Mountain Power's Subscriber Solar program, we have approximately 466 200 kWh blocks that could be put into a grant program to provide energy credits for deserving community organizations.

Given that the Commission has already approved the solar subscriber program, the value of the credit could be structured as it is in the Subscriber Solar program and it

[2] http://pvwatts.nrel.gov/pvwatts.php.

could show up as a credit on the grant recipient's utility bills. This type of program is in line with the community benefits of the current Blue Sky program, and it offers the additional benefit of opening up Blue Sky community benefits to organizations such as food banks and homeless shelters that may not have resources to install solar on their facilities even with the assistance of Blue Sky Grants. Furthermore, other benefits of the project, including avoided transmission upgrades and experience with solar and storage will still flow to Rocky Mountain Power and other ratepayers.

Q. Has Utah Clean Energy recommended this use for Blue Sky Funds before?

A. Yes, in our comments in docket 16-035-14, In the Matter of Rocky Mountain Power's 2015 Annual Report on the Blue Sky program.

Q. Do you support the Company's battery storage and solar proposal?

A. Yes, with the one caveat discussed in above regarding the use of Blue Sky funds for the solar portion. Utah Clean Energy recommends that the Commission require development of a Blue Sky grant program for the energy generated by the solar project. That aside, we are very supportive of this pilot project to utilize solar and storage to avoid distribution and transmission upgrades. We believe that, in addition to the deferral benefits, it will provide valuable experience and information. Utah Clean Energy appreciates the Company's efforts in this regard.

Q. Is there anything else you would like the Commission to consider?

A. Yes. As discussed in the October 11, 2016, technical conference, this project, which is being funded by Utah ratepayers, will have transmission-level impacts. Resources located on the distribution system (typically called Distributed Energy Resources or DERs) are increasingly interacting with and impacting the transmission

system. Utah Clean Energy believes that we can build a more resilient and reliable grid through smart deployment of distributed energy resources. Rocky Mountain Power's effort to incorporate distribution alternatives into grid planning is an important step in achieving these benefits. Because grid planning implicates numerous processes at many levels (local, state, regional), increased coordination, including proactive consideration of distributed, non-wires solutions is critical to creating a more reliable, resilient, and efficient electric grid.

It will also be critical going forward to address how to allocate costs associated with distributed or non-wires transmission alternatives across jurisdictional lines. Utah Clean Energy is committed to working to ensure that future beneficial projects are not preempted because of uncertainty over multi-state cost recovery issues.

Q: Does that conclude your testimony?

A: Yes.